

We claim:

1. A communications structure for communicating between at least one network node and at least two subscriber stations through a multiplexed link, said structure comprising:

a plurality of dedicated channels, each dedicated channel having allocated to it a portion of the transmission capacity of said link to provide communication between said network node and one of said at least two subscriber stations; and

a shared channel having allocated to it a portion of the transmission capacity of said link and wherein said shared channel is operable to transmit frames of packets from said network node to said at least two subscriber stations.

2. The structure according to claim 1 wherein said portion of the transmission capacity of said link allocated to said shared channel is fixed.

3. The structure according to claim 1 wherein said structure includes a preselected minimum number of said dedicated channels and said portion of the transmission capacity of said link allocated to said shared channel comprises the balance of said transmission capacity which is not occupied by said preselected number of said dedicated channels.

4. The structure according to claim 1 including at least two shared channels, each shared channel being operable to transmit frames of packets from said network node to said at least two subscriber stations.

5. The structure according to claim 4 wherein each of said at least two shared channels is operable to transmit said frames of packets to different ones of said at least two subscriber stations.

6. The structure of claim 4 wherein said balance of said transmission capacity is allocated unequally to each of said at least two shared channels.

7. The structure according to claim 3 wherein additional dedicated channels are created, as needed, by reallocating necessary transmission capacity of said link from at least one shared channels to such

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8. The structure according to claim 7 wherein said at least one shared channel has a preselected minimum transmission capacity and reallocation of transmission capacity from said at least one shared channel to said additional dedicated channels ceases before said transmission capacity allocated to said shared channels falls below said minimum transmission capacity.

10. The structure of claim 1 wherein at least one of said plurality of dedicated channels has a different amount of said transmission capacity allocated to it than does another of said plurality of dedicated channels.

12. The structure of claim 11 wherein said radio link employs CDMA as a multiplexing technique.

(iii) if a dedicated channel is selected, obtaining a dedicated channel when available and transmitting said first data transmission thereon and if a shared channel is selected, transmitting said first data transmission on said shared channel in the form of data packets addressed to said subscriber station.

14. The method of claim 13 wherein the determination in step (i) is made in consideration of the

QoS requirements of said first data transmission.

15. The method of claim 13 wherein the determination in step (i) is made in consideration of the type of data to be transmitted.

16. The method of claim 13 wherein, if a dedicated channel is selected and no such dedicated channel is available, said first data transmission is transmitted on said shared channel.

17. The method of claim 13 where in step (ii), both a dedicated channel and a shared channel are selected, an amount of said first data transmission corresponding to the transmission capacity of said dedicated channel being sent thereon and the balance of said first data transmission being sent on said shared channel.

18. A method of managing a transmission structure for transmitting data from a network node to a plurality of subscriber stations over a multiplexed link, comprising the steps of:

(i) allocating a portion of the bandwidth of said multiplexed link to create a number of dedicated channels, each of which can be assigned to a different one of said subscriber stations;

(ii) allocating a portion of the remaining bandwidth of said multiplexed link to a shared channel which can communicate with a plurality of said subscriber stations;

(iii) monitoring the requirements for dedicated channels in said structure and reallocating bandwidth of said multiplexed link between said shared channel and said dedicated channels to create or remove dedicated channels as required.

19. The method of claim 18 wherein said structure includes a preselected minimum number of dedicated channels and, in step (iii), no dedicated channels are removed when said number of dedicated channels is equal to said preselected minimum number.

20. The method of claim 18 wherein said structure includes a preselected minimum portion of bandwidth allocated to said shared channel and, in step (iii), no dedicated channels are created which would otherwise reduce the bandwidth allocated to said shared channel below said minimum portion of bandwidth.

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21. The method of claim 18 wherein said structure includes a preselected minimum number of dedicated channels and a preselected minimum portion of bandwidth allocated to said shared channel and, in step (iii), no dedicated channels are created which would otherwise reduce the bandwidth allocated to said shared channel below said minimum portion of bandwidth and no dedicated channels are removed when said number of dedicated channels is equal to said preselected minimum number.